

The Organization of Successful Diabetes Management in Primary Care

Peter R.W. Tasker*

St James' House Surgery, King's Lynn, Norfolk, UK

The following article represents a personal view on the crucially important factors necessary for successful diabetes management in primary care. It stresses the flexibility of approach and the ongoing dynamic aspects of care, emphasizing the importance of team effort, recognizing the person with diabetes as an integral member of the team.
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Introduction

Arguably the most fundamental change in the management of diabetes care in the last decade has been the shift in clinical management responsibility from the hospital-based service (secondary care) to one based in general practice (primary care).

It is often argued that general practitioners (GPs) and their teams should supervise most aspects of the patient's diabetes, only referring to the specialist team those patients who have complications or particular problems with control.¹ The detailed debate about the respective roles of primary and secondary care has been rehearsed elsewhere in this supplement, but experience and common sense tells us that 'integrated' diabetes care should not be a standard package but, rather, should be organized and tailored to the patient's individual needs and preferences and take account of the presence of specific complications or comorbidity and the level of training, experience and confidence of the practice team. It has become something of a cliché that all aspects of care have to be integrated, seamless and co-ordinated. This means, among other things, that psychological and physical care as well as medical and non-medical aspects of the patient's life with diabetes have to be addressed by all members of the caring team.

There is a real risk that 'sharing' care will lead to haphazard duplication of care.² Very clear protocols must be devised and all people involved need to have their roles clearly defined and their responsibilities clarified. Thus, the cornerstone of good diabetes management is an explicit but flexible organizational infrastructure and a culture of co-operation and communication.

Organizational Aspects of Diabetes Care in General Practice

Aims of Management

A driving principle of any co-ordinated diabetes service must be common standards of care wherever care is delivered. Primary care must share the broad goal of maintaining patients in as near a normoglycaemic state as possible, minimizing the risks of long-term complications, and identifying (and referring promptly) those that arise. However, treatment goals have to be realistic, particularly in the elderly (for whom hypoglycaemia can be devastating) and attention must be given to quality of life as well as blood glucose level.

Symptom relief is important but it must be recognized that some of the symptoms of poor diabetic control (and of poorly adjusted medication) may be subtle and non-specific, including vague, subjective mental deterioration and generalized malaise. Biological, rather than chronological, age should be used in defining treatment goals. A focus on education and ongoing support reflects an approach in which the patient is treated as a true partner in care.

Team Members

Having decided upon the model of care and the aims of treatment, the primary care team members have to be familiar with their individual roles. Ideally, a dietician and chiropodist should work on site, alongside the practice nurse and GP, and some practices may also have a psychologist. It is vitally important for the diabetes care team to meet regularly in order to exchange ideas, keep abreast of developments and continue to work as a cohesive group. All members of the team are crucially important and the team is only able to function when each person's contribution is recognized and valued.

* Correspondence to: Dr Peter Tasker, St James' House Surgery, County Court Road, Kings Lynn, Norfolk PE30 5EJ, UK

Identification of Patients

In order that care can be structured and organized, identification of patients with diabetes (i.e. the construction of a register) is an essential first step. These days, most practices have computer records that can identify patients receiving medication or monitoring strips for diabetes. In view of the significant morbidity and indeed mortality associated with diabetes, it has been recommended that practices should test high-risk groups opportunistically for undiagnosed diabetes,³ although the detailed resource implications of this have not been worked through. Educated and informed practice nurses are well placed to undertake random blood glucose estimations in, for example, overweight people with hypertension or women with recurrent candidiasis, interpret the result, and offer immediate reassurance and education to the patient.

Where Should Management Take Place?

The appropriate setting for the various elements of the care programme will vary for different patients in different practice settings and geographical areas. Published guidelines^{4,5} should be used as a basis but not a substitute for discussion for close collaboration with the hospital-based team. Before offering 'sole practice-based care' for patients (i.e. advising that there is no need for any routine contact with the hospital service), a number of prerequisites are needed. Motivated, educated and interested staff are essential and protected time is an advantage. It is desirable that care that involves education, drug manipulation and patients with coexisting pathology be focused in specific clinic sessions. Protocols which include such issues as initial management, frequency of follow-up arrangement, annual review appointments, initiation of insulin therapy and emergency care such as sick-day rules are more easily followed when staff are focused upon diabetes, i.e. in designated 'diabetes clinic' time. It is essential that clinical progress can be efficiently and adequately documented, perhaps ideally using specific record cards and computer records.

Clinical Management

The detailed mechanism of clinic operation should be decided locally but certain issues have to be addressed.

Length of Consultation

If insufficient time is allocated for an appointment, the clinic encounter becomes reduced to a mechanistic collection of a dataset. Education, continuity of care, and the patient's own concerns all tend to suffer. In order to ensure that this broader agenda is covered, consultations may need to be prolonged and frequent soon after diagnosis, and thereafter should be determined by the patient's confidence in self-management, indices

of clinical control, and a range of other medical and social factors. In all but the most straightforward cases, diabetes review appointments should be a minimum of 20 minutes in length.

The Routine Appointment

The 'core dataset' of which items to measure at each routine visit is hotly debated, and there are currently no evidence-based recommendations on the optimum frequency of different tests. Perhaps the most important aspect of care is to ask the patient (and carer) how things are going and respond to his or her specific concerns. It is generally recommended that at routine review (approximately every 6 months depending on confidence and control), the patient should be weighed, blood pressure taken, and some measure of biochemical control (preferably HbA_{1c}) performed. A foot examination must be carried out if there is a current or previous history of foot problems. An isolated blood glucose estimation (by finger-prick) has limited objective value but can serve as an important educational exercise confirming the patient's ability to perform this assessment accurately. Many practices now have phlebotomy services, enabling HbA_{1c} to be carried out a few days prior to the clinic appointment in order that discussion about level of control can be informed by up-to-date evidence.

The Diabetes Annual Review

It is now well established that patients with diabetes should have an extensive review of their physical and psychosocial situation and a reinforcement of educational principles once a year. Much of this can be carried out by the adequately trained practice nurse in a 30-minute appointment. Dietary review may be carried out by the nurse or a dietician. Examination by the GP (or nurse practitioner) should include a careful assessment of the peripheral vascular and neurological systems and, in the older age group, a detailed foot and footwear examination coupled with advice on foot care. Biochemical tests at the annual review should include a HbA_{1c} test and estimation of renal function (including microalbuminuria) but cholesterol need only be repeated 5-yearly if a normal result has previously been recorded.

Funduscopy

As other articles in this supplement show, current figures in UK centres suggest that over 40 % of patients with diabetes may fail to have their retina examined through dilated pupils once a year. This omission may be more frequent when the annual review takes place in general practice. It is not essential that the GP conducts such an examination, but as co-ordinator of the annual review, he or she is responsible for: ensuring that the patient has had dilated funduscopy or retinal photography by a properly trained professional; recording the result of this examination in the diabetic record; and referring the patient promptly for further investigation if indicated.

Education within General Practice

Diabetes education in general practice must be well planned and efficiently delivered, ideally by a practice nurse with specialized knowledge. Essential to successful education is time. Newly diagnosed patients are frequently stressed, have false preconceived ideas, exhibit denial and anger and thus often take time to be receptive to education. One-to-one teaching and listening is essential to inform and reassure the patient as well as to correct misconceptions. Group teaching for people sharing similar difficulties and problems is a useful adjunct to the individual approach. Education is a continuing process; individual needs alter, and information, concepts, opinions and treatments change. Written information is a useful addition to the spoken word.

Survival education is the first stage in the continuing learning process. The patient has to be told the diagnosis, taking into account any knowledge they already possess. During this consultation a treatment plan is devised emphasizing the need for the patient's participation. The basic fundamentals of care, including metabolic complications such as hypoglycaemia and sick-day rules must be taught early in the programme. Professor John Day⁶ has shown that patients are more likely to learn to manage their diabetes successfully if they are less dependent on their medical team, thus it is important that doctors adopt a counselling, patient-centred rather than a prescriptive approach.

Audit

Audit of diabetes care is an essential link in the maintenance and improvement of standards. All commercial GP computer systems now have the capacity to convert individual data items on particular patients into aggregated data on the practice population. Thus, in the 97 % of practices that are computerized, both process measures ('data capture': what proportion of registered patients have had particular items of data recorded in their notes in the past 12 months), and outcome measures (for example, mean HbA_{1c}, body mass index, and mean systolic blood pressure) can be successfully collected and audited at practice level.

In practice, many GP computer systems are under-

used and essential data may be recorded in handwritten casenotes rather than on computer. Letters from hospital 'shared care' clinics may be filed by reception staff or locum doctors without their contents being entered onto a computer template. Hence, audit of diabetes care usually requires additional protected time even in computerized practices.

The sharing of anonymized practice-based data in an area-wide or district-wide audit is described by two articles in this supplement (see Siann *et al.* and Wells *et al.*). In this way, practices can see how their own performance compares with that of comparable practices and also engenders a sense of shared commitment to population targets.

Conclusion

Diabetes is a multi-system disease that impacts on patients' lives and lifestyles and is very often associated with comorbidity, especially coronary heart disease and hypertension. Successful management of such patients depends on continuity of care and on the negotiation and renegotiation of personal targets for lifestyle change. Practitioners in primary care are well placed to offer this service, but we should not be complacent about our ability to deliver in the absence of a meticulously planned, carefully co-ordinated and adequately resourced infrastructure within the practice, close communication and collaboration with the hospital-based team, and regular reflection on quality of care in the shape of a systematic cycle of clinical audit.

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